



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,878	10/16/2003	Yu-Cheng Hsu	TUC920030050US1	7388

45216 7590 03/01/2007  
KUNZLER & ASSOCIATES  
8 EAST BROADWAY  
SUITE 600  
SALT LAKE CITY, UT 84111

EXAMINER
----------

JOHNSON, CARLTON

ART UNIT	PAPER NUMBER
----------	--------------

2136

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/01/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/686,878

Applicant(s)

HSU ET AL.

Examiner

Carlton V. Johnson

Art Unit

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10-16-2003</u> | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is responding to application papers filed on **10-16-2003**.
2. Claims **1 - 30** are pending. Claims **1, 10, 13, 17, 24, 28** are independent.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims **1 - 7, 10, 11, 13 - 22, 24 - 30** are rejected under 35 U.S.C. 102(e) as being anticipated by **Backman et al.** (US Patent No. **7,124,322**).

**Regarding Claim 1**, Backman discloses an apparatus for rapidly, deterministically transferring data, the apparatus comprising:

- a) a processor configured to process data; (see Backman col. 3, lines 55-58:  
processor)
- b) a memory configured to store the data; (see Backman col. 3, lines 53-54; col. 4, lines 22-29: RAM/ROM memory, storage, hard disk) and
- c) a boot control module configured to boot the processor with a standard operating kernel under a first selected condition and to reboot the processor with a data

transfer kernel under a second selected condition. (see Backman col. 1, lines 53-56; col. 5, lines 64-67: normal operation, data save operation performed; col. 3, lines 12-18; col. 6, lines 30-40: restoration boot for recovery)

**Regarding Claims 2, 20**, Backman discloses the apparatus of claim 1, wherein the data transfer kernel is configured to support a data save operation. (see Backman col. 4, lines 6-9: imaging process (i.e. data transfer kernel) to backup system data (i.e. data save operation))

**Regarding Claim 3**, Backman discloses the apparatus of claim 2, wherein the data save operation is selected from the group consisting of a storage configuration operation, a transfer process loading operation, a data transfer operation, and a system shutdown operation. (see Backman col. 4, lines 6-9; col. 4, lines 31-36: backup image data (i.e. data save operation, data transfer kernel))

**Regarding Claims 4, 11, 19, 30**, Backman discloses the apparatus of claim 3, wherein the data transfer kernel is configured to exclusively support the data save operation. (see Backman col. 4, lines 6-9; col. 4, lines 31-36: imaging process (i.e. data transfer kernel), only function, exclusively support for data save operation)

**Regarding Claims 5, 16, 27, 29**, Backman discloses the apparatus of claim 1, wherein the memory module further comprises data bits for marking data to be saved during a

data save operation. (see Backman col. 4, lines 31-36: data designation or data marking (i.e. baseline, application, personal))

**Regarding Claim 6**, Backman discloses the apparatus of claim 5, wherein the standard operating kernel is further configured to mark data to be saved during a data save operation. (see Backman col. 4, lines 31-36: data designation or data marking (i.e. basic, application, personal))

**Regarding Claims 7, 21**, Backman discloses the apparatus of claim 1, wherein the data transfer kernel is configured to configure a storage device for specialized data save operations. (see Backman col. 4, lines 6-9: capability to save; col. 4, lines 14-22: types of data (i.e. baseline, application, personal))

**Regarding Claims 10**, Backman discloses an apparatus for rapidly, deterministically transferring data to a storage device, the apparatus comprising:

- a) a storage device configured to store data; (see Backman col. 4, lines 22-29; col. 4, lines 31-36: storage device(s))
- b) a data transfer kernel configured to support data saving operations; (see Backman col. 4, lines 6-9: imaging process (i.e. data transfer kernel), data saving operation) and
- c) a computer in communication with the storage device, the computer configured to load the data transfer kernel during a reboot procedure. (see Backman col. 4,

lines 22-29; col. 4, lines 31-36: network connected storage, network communications)

**Regarding Claim 13**, Backman discloses an apparatus for rapidly, deterministically saving data, the apparatus comprising:

- a) means for saving data; (see Backman col. 4, lines 6-9: save data, imaging process (i.e. data transfer kernel); col. 2, lines 52-55; col. 2, lines 12-13; col. 4, lines 9-13: application, process, software, implementation means: software, implementation means)
- b) means for detecting a data save condition; (see Backman col. 4, lines 6-9: data save, imaging process: ; col. 2, lines 52-55; col. 2, lines 12-13; col. 4, lines 9-13: application, process, software, implementation means) and
- c) means for booting a processor with a data transfer kernel, the data transfer kernel configured to save data to the means for saving data. (see Backman col. 1, lines 53-56; col. 5, lines 64-67: normal operation, data save operation completed; col. 2, lines 52-55; col. 2, lines 12-13; col. 4, lines 9-13: application, process, software, implementation means)

**Regarding Claim 14**, Backman discloses the apparatus of claim 13, further comprising means for configuring the means for saving data for data save operations. (see Backman col. 2, lines 12-13; col. 4, lines 9-13: application, process, software, implementation means; col. 4, lines 6-9: backup or save data (i.e. image data))

**Regarding Claim 15**, Backman discloses the apparatus of claim 13, further comprising means for booting a standard operating kernel for normal operation. (see Backman col. 1, lines 53-56; col. 5, lines 64-67: normal system operation; col. 2, lines 52-55; col. 2, lines 12-13; col. 4, lines 9-13: application, process, software, implementation means)

**Regarding Claim 17**, Backman discloses a system for rapidly, deterministically saving data to a storage device, the system comprising:

- a) a processor configured to process data; (see Backman col. 3, lines 55-58: processor for data processing)
- b) a memory configured to provide volatile storage for the data; (see Backman col. 3, lines 55-58: volatile storage (i.e. RAM, ROM))
- c) a storage device configured to provide non-volatile storage for the data; (see Backman col. 4, lines 22-29: non-volatile storage (i.e. hard disk)) and
- d) a boot control module configured to boot the processor module with a standard operating kernel under a first selected condition and to reboot the processor with a data transfer kernel under a second selected condition. (see Backman col. 1, lines 53-56; col. 5, lines 64-67: condition one, normal operation; col. 3, lines 12-18; col. 6, lines 30-40: second condition, restoration operation)

**Regarding Claim 18**, Backman discloses the system of claim 17, wherein the standard operating kernel is configured to mark data in the memory module to be saved by the

Art Unit: 2136

data transfer kernel during a data save operation. (see Backman col. 4, lines 31-36: specific data types (i.e. mark data) for saving (i.e. basic, application, personal))

**Regarding Claim 24**, Backman discloses a method for rapidly, deterministically saving data, the method comprising:

- a) detecting a data save condition; (see Backman col. 4, lines 6-9: save data, imaging process) and
- b) rebooting a processor module with a data transfer kernel. (see Backman col. 6, lines 30-40: setup/initiate restoration environment (i.e. reboot), data save information)

**Regarding Claim 25**, Backman discloses the method of claim 24, further comprising exclusively supporting devices and conducting processes required to save data to a storage device. (see Backman col. 4, lines 6-9; col. 4, lines 22-29; col. 4, lines 31-36: save data to storage device (i.e. image server, storage))

**Regarding Claim 26**, Backman discloses the method of claim 24, further comprising configuring the storage device to receive data. (see Backman col. 4, lines 14-17: disk partition (i.e. configuring storage device))

**Regarding Claim 28**, Backman discloses a computer readable storage medium



comprising computer readable program code for rapidly, deterministically saving data, the program code configured to:

- a) boot a processor module with a data transfer kernel; (see Backman col. 6, lines 30-40: load processor with restoring environment (i.e. data transfer kernel); col. 3, lines 55-58: processor) and
- b) transfer data from a memory module to a storage device. (see Backman col. 4, lines 6-9; col. 4, lines 31-36: backup data (i.e. image data) from memory module to image server (i.e. storage device))

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8, 9, 12, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Backman** in view of **Neuman et al.** (US PG PUB No. 20030217299).

**Regarding Claims 8, 12, 22**, Backman discloses the apparatus of claim 1, wherein the data transfer kernel. (see Backman col. 2, lines 12-13: imaging/restoration process (i.e. data transfer kernel)) Backman does not specifically disclose wherein configured to conduct a power down procedure. However, Neuman discloses wherein configured to conduct a power down procedure. (see Neuman paragraph [0030], lines 1-5: power

Art Unit: 2136

state management; paragraph [0003], lines 6-13; paragraph [0055], lines 1-7; paragraph [0057], lines 1-8: power down state (i.e. power down procedure))

It would have been obvious to one of ordinary skill in the art to modify Backman as taught by Neuman to enable a power down procedure. One of ordinary skill in the art would have been motivated to employ the teachings of Neuman in order to enable a reduction in the amount of data required to save system context for a recovery operation, and to enable a relatively fast wake-up procedure from a sleep state. (see Neuman paragraph [0015], lines 1-4: “ ... *Advantageously, embodiments of the present invention enable a power management system to be realised in which the amount of data that needs to be saved to preserve a system context is reduced. ...* ”; paragraph [0017], lines 1-3: “ ... *Furthermore, embodiments allow, in the absence of a power failure, a relatively fast wake-up time from a sleep state. ...* ”)

**Regarding Claims 9, 23,** Backman discloses the apparatus of claim 1, wherein the first selected condition comprises a normal operating state. (see Backman col. 1, lines 53-56; col. 5, lines 64-67: normal operation (i.e. data save operation)) Backman does not specifically disclose a loss or power state. However, Neuman discloses wherein the second selected condition comprises a loss of power. (see Neuman paragraph [0030], lines 1-5: power state management; paragraph [0055], lines 1-7: power off state (i.e. loss of power))

It would have been obvious to one of ordinary skill in the art to modify Backman as taught by Neuman to enable a loss of power state. One of ordinary skill in the art would

have been motivated to employ the teachings of Neuman in order to enable a reduction in the amount of data required to save system context for a recovery operation, and to enable a relatively fast wake-up procedure from a sleep state. (see Neuman paragraph [0015], lines 1-4; paragraph [0017], lines 1-3)

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlton V. Johnson whose telephone number is 571-270-1032. The examiner can normally be reached on Monday thru Friday , 8:00 - 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number: 10/686,878

Page 11

Art Unit: 2136

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NASSER MOAZZAMI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

Carlton V. Johnson  
Examiner  
Art Unit 2136

C.J.

CVJ

February 26, 2007

2/27/07